

## **Progress Report on Modeling Approach**

1. **Status.** During a meeting held on May 2, 2006, two approaches to the contaminant fate and transport modeling were discussed. Bruce Hope described EPA's proposed mass balance contaminant fate and transport model. Carl Stivers presented the LWG approach which relies on hydrodynamic sedimentation modeling and evaluation of key processes on a site or location specific basis. A conference call took place on May 17, 2006 to resolve the approaches. At the conference call the following approach was tentatively agreed to:
  - Develop a hybrid approach that makes use of the LWG's EDFC hydrodynamic sedimentation model and the EPA fate and transport model being developed by Bruce Hope.
  - Utilize the recently collected sedflume and settling velocity estimates as well as other site data to refine the hydrodynamic sedimentation modeling effort.
  - Concurrently with the above step, get the EPA fate and transport model up and running use site data. Based on the results of initial model runs, identify additional data needs and/or refinements to the fate and transport model segments developed by EPA.
  - Output from the EDFC model will be "chunked" to match the fate and transport model segments. The goal of the effort will be to use the EDFC model to estimate the flux of sediment and water in and out of each cell.
2. **Issues:** Issues that need to be addressed regarding this approach include:
  - Data needs to support the approach (in-water data and upland contaminant load data – e.g., stormwater data)
  - The mechanics of linking up the two approaches
  - Level of effort required to link up the two approaches
  - When to link the two approaches (soon based on initial runs of fate and transport model and calibrated hydrodynamic model or later once sedimentation model has been refined based on recently collected sedflume and settling velocity data)
  - The ability of Stella to handle the increased computation
  - How to account for specific processes (e.g., advective groundwater transport, prop wash)
  - Schedule and timing.
3. **Next Steps:** The next steps are to
  - Develop a better understanding of the pros and cons of this approach.
  - Develop greater clarity on the expectations of the fate and transport modeling approach.
  - Reach agreement on the objectives and tools for the fate and transport modeling effort.
  - Discuss the application of the food web model and its relationship to the fate and transport model.